Claims

1. A method for guiding and supporting a comparatively thin sheet metal or metal strip (1) during transport across a conveying device (10), such as a rolling table, and/or during, before or after a cutting process when passing through shears (3), characterized in that the sheet metal or strip (1) is loaded at least from its underside (1') with energy-rich jet bundles (2, 2') of a liquid or gaseous medium and is thus supported and guided by means of impulse energy.

2. A method according to claim 1, characterized in that the liquid or gaseous medium is guided under pressure through supply channels (4) in the interior of the transport and/or blade carrier drums (7, 8) to jet nozzles (5) at their peripheries and exits as a closed jet (2) from them before and/or behind the support areas of the transport drum or the blade drum or as closely as possible adjacent to the blades (6) of the blade drum (8) against the sheet metal or strip (1) at a slant or at a substantially perpendicular angle relative to the sheet metal or strip (1).

3. A method according to claim 1 or 2, characterized in that the medium flows out of the jet nozzles (5) oriented against the sheet metal or metal strip (1) in a limitable angular position of the drum (7, 8) by employing a rotary valve (9), preferably arranged at an end face of the rotatable transport or blade carrier drum (7, 8).

4. A method according to one or several of the claims 1 to 3, characterized in that in the case of chisel-type shears, comprising an upper or lower drum (8) provided with a cutting chisel (11) and a counter drum (8') formed as an anvil, the sheet metal or strip (1) to be cut is loaded with at least one medium jet (2, 2') out of each of the drums (8, 8'), preferably before and/or behind the cutting plane (y-y), from above and/or from below.

5. A method according to one or several of the claims 1 to 3, characterized in that in the case of shearing-off shears (13), comprising a blade drum (8, 8') each with a blade (6, 6') having oppositely positioned edges, the sheet metal or strip (1) to be separated is loaded, respectively, before and/or behind the cutting plane (y-y) with a supporting medium jet or several such medium jets (2,2') from above and/or from below.

6. A method according to one of several of the claims 1 to 4, characterized in that upon advancing of the sheet metal or strip (1), in particular, during introduction of its head (16) into the chisel-type shears (3), the entry of the head (16) in the area of the guide wedge (15) arranged stationarily upstream of the chisel-type shears (3) as well as its advancing speed are determined by a signaling device (19) and the head (16) is loaded and guided by at least one row of medium jets (2, 2') exiting from the guide wedge (15) from below approximately perpendicularly against the sheet metal or strip (1).

7. A method according to one of the claims 1 to 6, characterized in that the signaling device detects the strip head or the strip cut and the jet nozzles (5) at the strip head or strip cut are then loaded only briefly with medium.

8. A method according to one of the claims 1 to 7, characterized in that in the case of transport drums of a rolling table the jet nozzles during the respective pass of the strip head are briefly successively loaded with medium.

9. A device for guiding and supporting a thin sheet metal or metal strip (1), in particular, for performing the method according to the invention, comprising transport drums and/or blade carrier drums (7, 8), characterized in that the drums (7, 8) at their periphery have jet nozzles (5) arranged in axis-parallel alignment in at least one row which, upon loading with a liquid or gaseous medium, are oriented against the top surface and/or bottom surface of the sheet metal or the metal strip.

10. A device according to claim 9, characterized in that in the case of a drum (8) provided with a blade (6, 6') or a cutting chisel (11) the jet nozzles (5) of one row are positioned as closely as possible adjacent to the blade (6) or the chisel (11).

11. A device according to claim 9 or 10, characterized in that the jet nozzles (5) are connectable, starting at supply channels (4) extending in the interior of the drums (7, 8), with sources (25) provided external to the drums (7, 8) with

connecting members (21, 21') for a medium that can be supplied under pressure.

12. A device according to claim 9, 10 or 11, characterized in that at least one pump (22) and at least one rotary valve (9) are arranged between the supply channels (4) of a drum (7, 8) and a source (25) for a medium that can be supplied under pressure.

13. A device according to least one of the claims 9 to 12, characterized in that the rotary valve (9) is arranged preferably at an end face of a drum (7, 8).

14. A device according to one or several of the claims 9 to 13, wherein between the chisel-type shears (3) and the rolling table (10) guide wedges (15) are arranged, characterized in that the guide wedges (15) comprise jet nozzles (5) on supply channels (4) provided for a medium, and that they are connected to media supply lines (29) with a pressure pump (27) arranged therein and a media source (25), and that above the sheet metal or strip (1) a signaling device (19) monitoring the entry of the strip is arranged which is in communication with the motor (28) of the pump (27) via a control signal line (26).

15. A device according to one or several of the claims 9 to 14, characterized in that the jet width of the jet nozzles (5) is adjustable.

16. A device according to one or several of the claims 9 to 15, characterized in that in the case of transport drums of a rolling table the jet nozzles are distributed radially on the periphery of the drum.